

Chapter 7 Data Analysis and Lines of Best Fit

What You Learned Before

Unit Question: Where am I? &
Where am I Going? (Part 2)

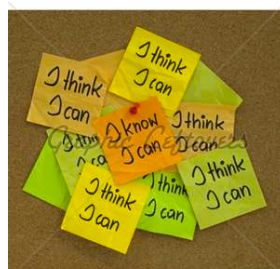
Learner Profile: Balanced

Area of Interaction: Health & Social Education



I Can Statement:

I can conduct a survey
analyze the data, and
display the data.



Think, Pair, Share

What is data?

How do you analyze it?

How do you display it?

According to the dictionary:

Definition of DATA.

1: factual information (as measurements or statistics) used as a basis for reasoning, discussion, or calculation.



Data Analysis:



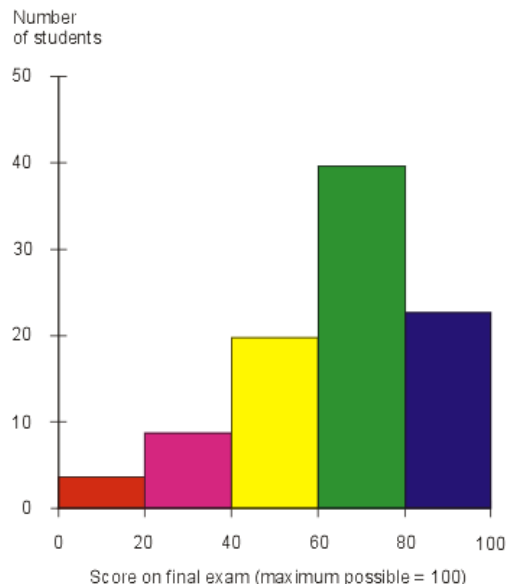
Analysis of data is a process of inspecting, transforming, and modeling data with the goal of highlighting useful information, suggesting conclusions, and supporting decision making.

Displaying Data:

Data can be displayed in various ways (usually a graph.)

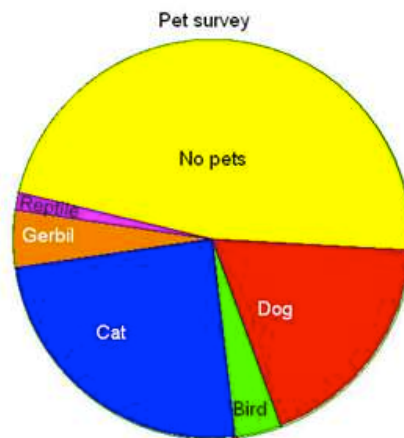
Histogram:

A **histogram** looks similar to a bar graph, however it shows bars that represent numerical intervals and are touching. While a bar graph shows bars that represent categories and are not touching.



Circle Graph:

A Circle Graph is a graph in the form of a circle that is divided into sectors, with each sector representing a part of a set of data.



How do you get the sectors to represent the data?

Understanding Circle Graphs:

Example 1 The table shows the results of a survey. Display the data in a circle graph.

Class Trip Location	Water park	Museum	Zoo	Other
Students	25	11	5	4

A total of 45 students took the survey.

Water park:

$$\frac{25}{45} \cdot 360^\circ = 200^\circ$$

Museum:

$$\frac{11}{45} \cdot 360^\circ = 88^\circ$$

Zoo:

$$\frac{5}{45} \cdot 360^\circ = 40^\circ$$

Other:

$$\frac{4}{45} \cdot 360^\circ = 32^\circ$$

Class Trip Locations



Measures of Central Tendency:

- One Way to analyze data

A **measure of central tendency** is a measure that represents the center of a data set. The *mean*, *median*, and *mode* are measures of central tendency.

Key Ideas

Mean

The *mean* of a data set is the sum of the data divided by the number of data values.

Median

Order the data. For a set with an odd number of values, the *median* is the middle value. For a set with an even number of values, the *median* is the mean of the two middle values.

Mode

The *mode* of a data set is the value or values that occur most often.

Find the mean, median, and mode of the following data:

Students' Hourly Wages	
\$3.87	\$7.25
\$8.75	\$8.45
\$8.25	\$7.25
\$6.99	\$7.99

If there any data that is an outlier? Explain why or why not.

Mean - \$7.35
 Median - \$7.62
 Mode - \$7.25
 Outlier - \$3.87

Survey Assignment (See worksheet):

1. Conduct a survey to determine the average number of hours each student watches television in a week.

- You must ask at least 20 people.
- Find the mean, median, and mode.
- Display the results in a circle graph.
- State one conclusion you can make from your data.



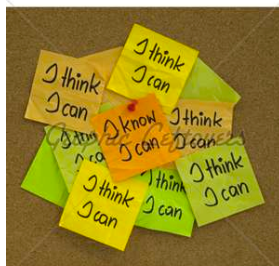
2. Conduct a survey to determine the average number of hours each student does homework in a week.

- You must ask at least 20 people.
- Find the mean, median, and mode.
- Display the results in a histogram.
- State one conclusion you can make from your data.



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Assignment:

Survey
(worksheet)

